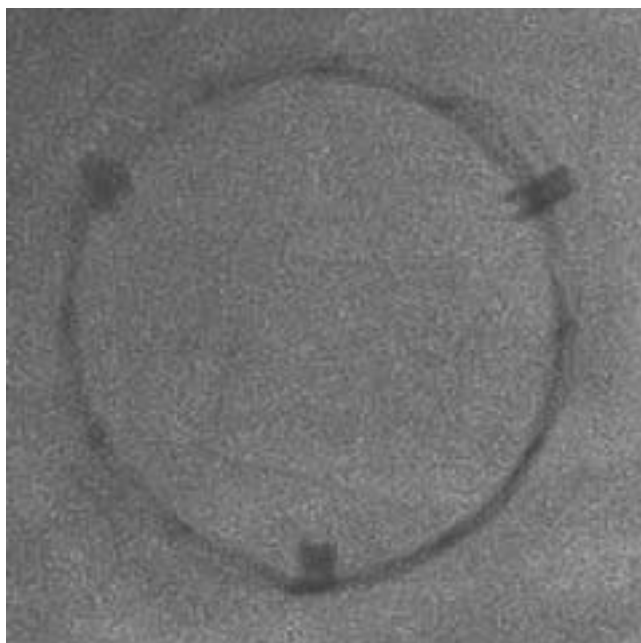


Transcatheter aortic valve replacement is a new alternative to heart surgery in selected patients. The balloon expandable Edwards-Sapien bovine valve is mounted in a stainless-steel stent with a maximal opening diameter of 23 or 26mm. Recent observational, anatomical study suggests that a distorted stent could produce valvular dysfunction impairing the long-term results. The Edwards Sapien bioprosthesis showed to have an optimal deployment and a high radial force in vitro. To further assess its deployment in patients with severe calcified aortic stenosis, we conducted a prospective study to analyze the circularity of the cross-sectional area of the deployed stent.

Methods: Optimal cross sectional projection of the expanded stent was selected on X-ray after the procedure. Images were analyzed and the corresponding profile of the stent was described by means of a polygon, for each valve, using two computer programs: 1) to measure the coordinates of the points composing this polygon and 2) to compute the corresponding cross-sectional areas. We defined a circularity index to measure the departure of this curve from the (best) theoretical conditions of a circle, the ratio of its area to the squared perimeter as a percent value of the corresponding ratio for a circle ($1/4\pi=0.079$).

Results: 23 patients were implanted (23 mm in 9 and 26 mm in 14). Final perimeters from cross-sectional areas of deployed stents were similar to the nominal perimeter in both sizes prosthesis (94–98 % from the reference values). Mean circularity index was 0.078 ± 0.001 , with a mean perceptual difference of 1.6 (98.4% of similarity with a perfect circle).

Conclusions: Most of the Edwards Sapien valve cross-sectional areas are circular after deployment even within heavily calcified native valves, confirming the high radial force of the stent. The circularity index can be considered a useful parameter to assess the quality of opening of transcatheter aortic valves.



cross-sectional projection of a 26 mm valve

159

Ghost of Infected Leads: A New Criterion Associated with the Diagnosis of Cardiac Device-Related Infective Endocarditis

Yvan Le Dolley (1), Franck Thuny (1), Julien Mancini (1), Jean-Paul Casalta (1), Alberto Riberi (1), Emilie Bastard (1), Sebastien Ansaldi (1), Frédéric Franceschi (1), Sebastien Renard (1), Sebastien Prevot (1), Roch Giorgi (1), Laurence Tafanelli (1), Jean-François Avierinos (2), Didier Raoult (1), Jean-Claude Deharo (1), Gilbert Habib (1)

(1) La Timone, Marseille, France – (2) Hôpital Timone Adulte, Département de Cardiologie, Marseille, France

Objectives: We sought to determine the incidence, diagnostic value and outcome of intracardiac masses observed by echocardiography after device removal. We hypothesized that these “ghosts” of leads could be associated with the diagnosis of cardiac device-related infective endocarditis (CDRIE).

Background: Echocardiographic appearance of residual floating masses in the right atrium has recently been described after removal of permanent pacemakers (PPM) and implantable cardioverter defibrillators (ICD).

Methods: The preoperative clinical, microbiological and echocardiographic conditions, the indication and the type of removal technique were analysed in a retrospective cohort including all consecutive patients who underwent percutaneous lead removal at our institution. Three groups were formed according to the final diagnosis: CDRIE, local device infection (LDI), and non-infective indications. Incidence of ghosts was compared between the three groups. All predefined clinical and technical factors were studied for their association with ghosts. All patients with ghost were followed after hospitalization.

Results: Two hundred and twelve patients underwent lead removal. Ghosts were observed in 17 patients (8% incidence), including 14 (82%) of 88 patients with CDRIE and 3 (5%) of 59 patients with LDI. Ghosts were never observed among the remaining 65 non infected patients. A significant association was found between CDRIE and the presence of ghost (OR=7.63, 95%; CI 2.12-27.45, $p=0.001$). At three months, 2 patients with ghost died from sudden death, 2 underwent surgery and one had a pulmonary embolism.

Conclusions: Ghost is a newly described echocardiographic finding observed after percutaneous device extraction. Its presence is highly suggestive of device infection and might represent a new criterion for the diagnosis of CDRIE. The prognostic significance of such finding needs further investigations.

160

Factors arising bleeding risk in dental surgery in patients treated with antivitamin K

Fadila Daimellah (1), Mohand Said Issad (1), Saléha Lehachi (1), Zakia Bennoui (1), Djohar Hannoun (2), Samira Abrouk (2), Hamid Boukais (3), Wacila Zerrouki (3)

(1) CHU Béni Messous, cardiologie, Alger, Algérie – (2) Institut National de Santé Publique Alger, Alger, Algérie – (3) CHU Béni Messous, Pathologie et Chirurgie buccale, Alger, Angola

Background: In dental surgery, to take charge of heart disease patients treated with antivitamin K remains a common practice problem.

Objective: To research the factors which increase bleeding after dental extractions in patients treated by acenocoumarol.

Material and methods: Cohort study in which dental extractions are realized in heart disease patients treated by acenocoumarol, with an International Normalized Ratio (INR1) the day before the act between 2.00 and 4.50, using in all cases the local hemostatic measures : oxycellulose mesh (surgicel®) + sutures + compression gutter. The day of extraction, a pre-operative INR control (INR2) was systematic. The degree of dental traumatism corresponded to the extracted root number / session. The results are expressed with confidence intervals at 95 %.

Results: 229 extraction sessions are realized in 135 patients, 50.32 ± 2.12 years old with a 1.25 sex ratio, an extractions number / subject / session of 1.96 ± 0.23 teeth and a degree of dental traumatism of 2.89 ± 0.24 . The INR1 and INR2 were respectively of 3.30 ± 1.10 and 3.40 ± 1.59 . Bleeding complicated 9 extraction sessions (3.93 %) and occurred after the 48th hour in 4 cases (44.44%). In the bleeding group, INR2 was 3.33 ± 7.02 against 3.40 ± 1.64 in absence of haemorrhage, $p = 0.86$. The degree of dental traumatism was 4.89 ± 3.11 in cases of bleeding against 2.80 ± 0.22 , $p = 0.02$.

Conclusion: In heart disease patients treated by acenocoumarol, it's the degree of dental traumatism which was the hemorrhagic factor, not the INR pre-operative value.